

NATIONAL HEALTH INFORMATION INFRASTRUCTURE 2003

# DEVELOPING A NATIONAL ACTION AGENDA FOR NHII

## **NHII Operating in a Community**

J. Marc Overhage, MD, PhD

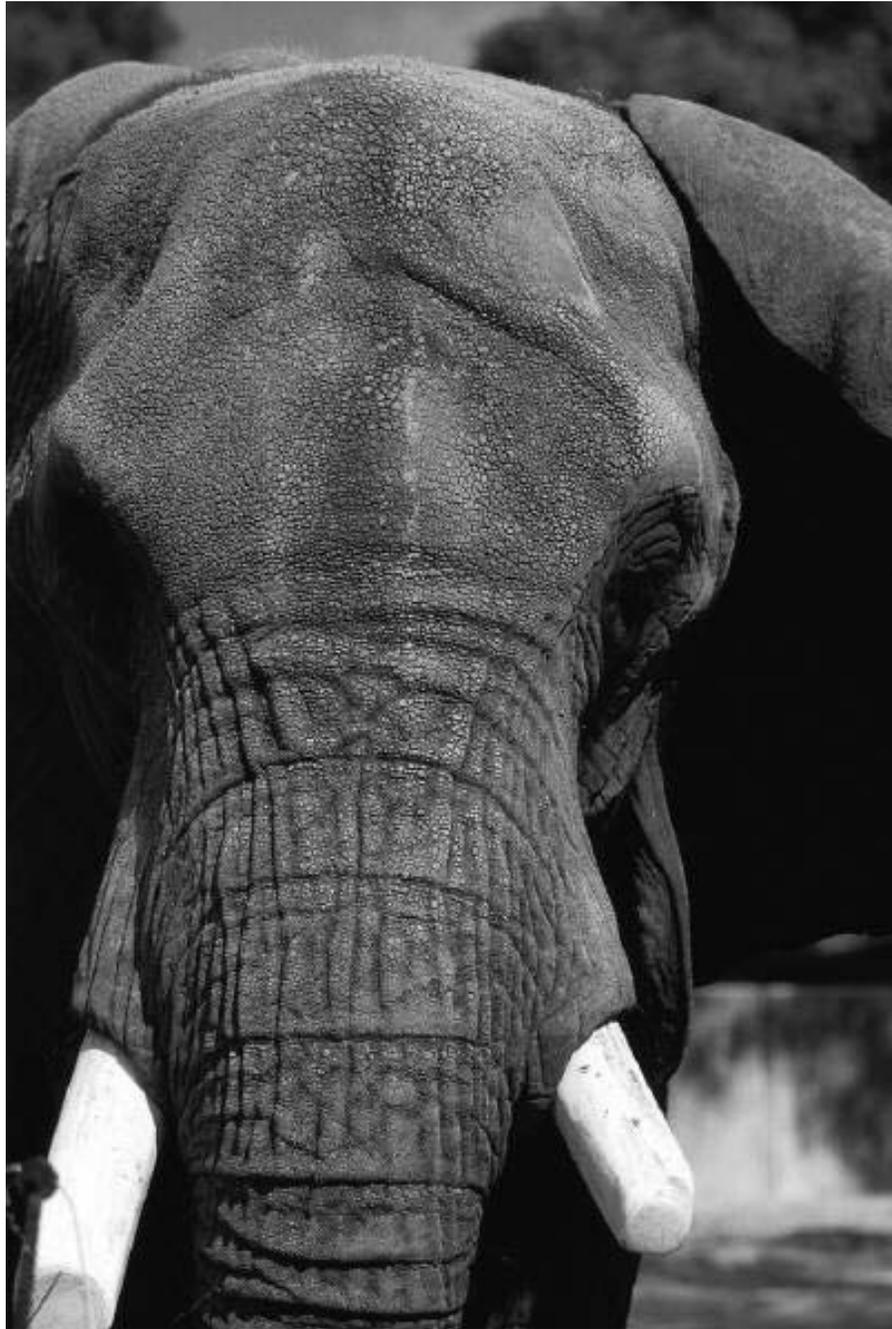
Regenstrief Institute

June 30, 2003



# The Indiana Network for Patient Care (INPC)

An operational community wide  
electronic medical record



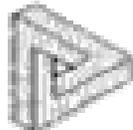


## Central Indiana Life Sciences Initiative

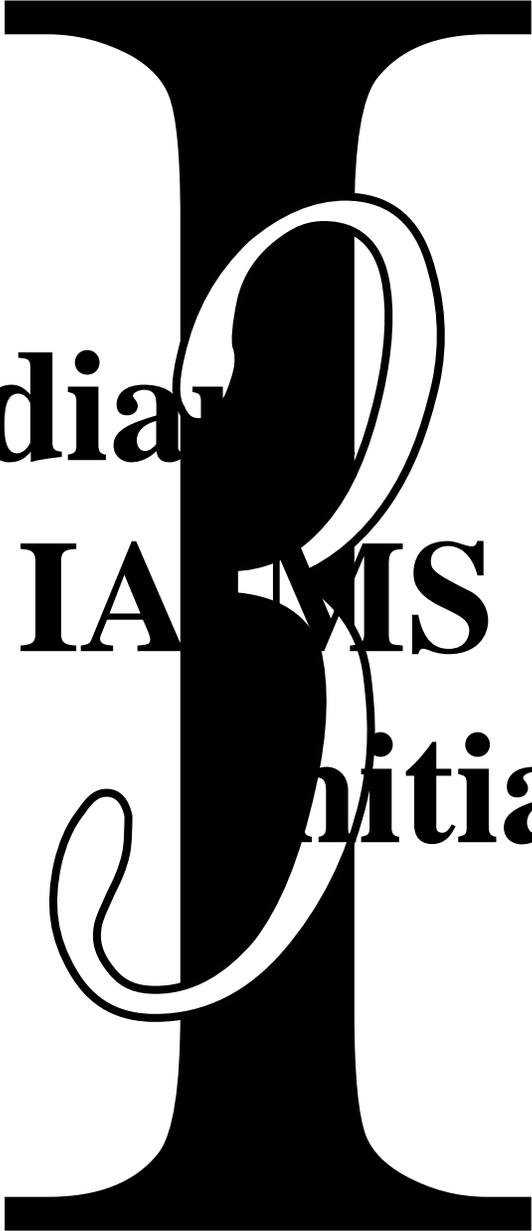


# **INPC**

**Indiana Network for Patient Care**



ICareConnect



**India**  
**IAIS**  
**Initiative**



# Initial RMRS Aims

- Eliminate the logistic problems associated with the paper record
- Standardize the care process. Deliver information in a more organized and useful way. Actively process this record and provide decision support to clinicians.
- Analyze and understand the data to improve the health of populations



# INPC Project Goal

Demonstrate the feasibility and benefit of a community wide electronic medical record system in acute care situations.



# INPC Project Motto

Resistance is futile!

*You will be assimilated*





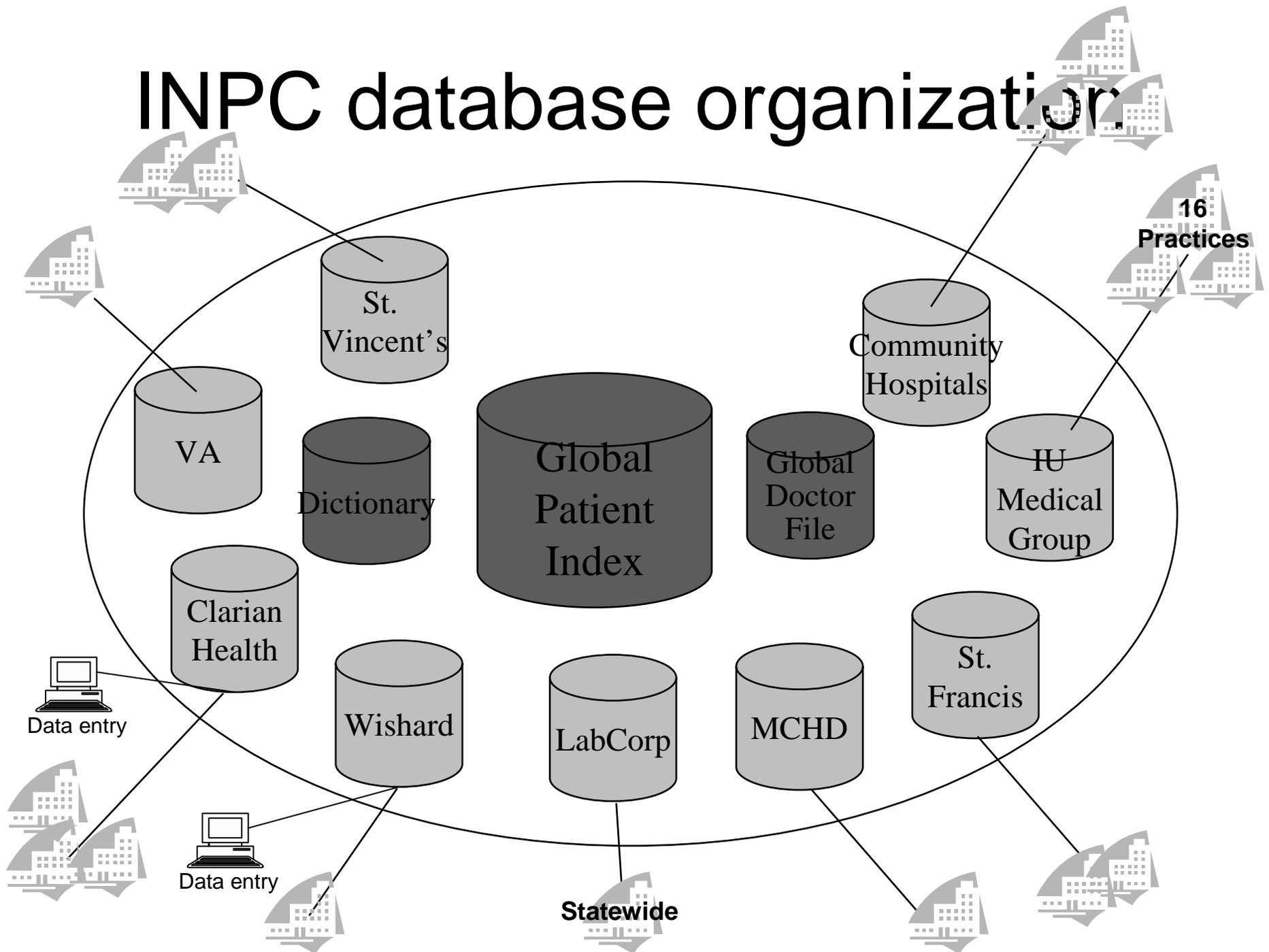
# INPC Users

- Most central Indiana med/surg hospital EDs
- Hospital based providers (expanding)
- Primary Care (85 providers/20 locations)
- Homeless care network
- Public school clinics
- Marion County Health Department
- Indiana State Department of Health

# INPC functions

- Results retrieval
- Clinical messaging/document delivery
- Data entry
- Reporting
- Clinical decision support
- Public health surveillance
- Medical reference access

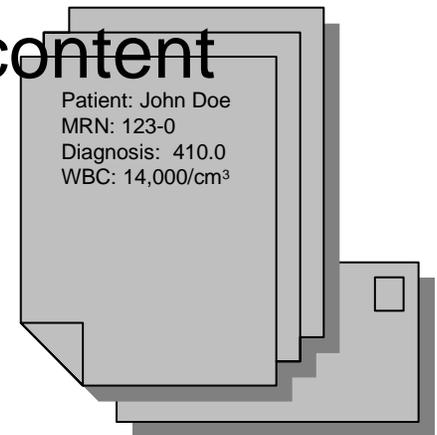
# INPC database organization



<b>Datum</b>	<b>Coverage</b>	<b>Penetration</b>
Chief Complaint	Indianapolis MSA	98%
Lab orders	Indianapolis MSA	30%
IP Diagnoses	Indianapolis MSA	98% (179K/yr)
OP Diagnoses	Indianapolis MSA	10%
Laboratory Results	Indianapolis MSA	90% (46.5M/yr)
IP Medications	Indianapolis MSA	95% (48.2M/yr)
Radiology reports	Indianapolis MSA	90% (1.3M/yr)
Outpatient Prescriptions	Indianapolis	70-80%
OTC Medications	Indiana	10%
Nurse hotline	Indianapolis MSA	10%

# Clinical Data Standards

- Current
  - HL7 messages for most as the envelope
  - DICOM messages for images as the envelope
  - LOINC for laboratory results content
  - CPT-4 for procedures content
  - ICD-9 for diagnoses content
  - NDC and RxNorm for medications content
- Anticipated
  - Organisms for microbiology content

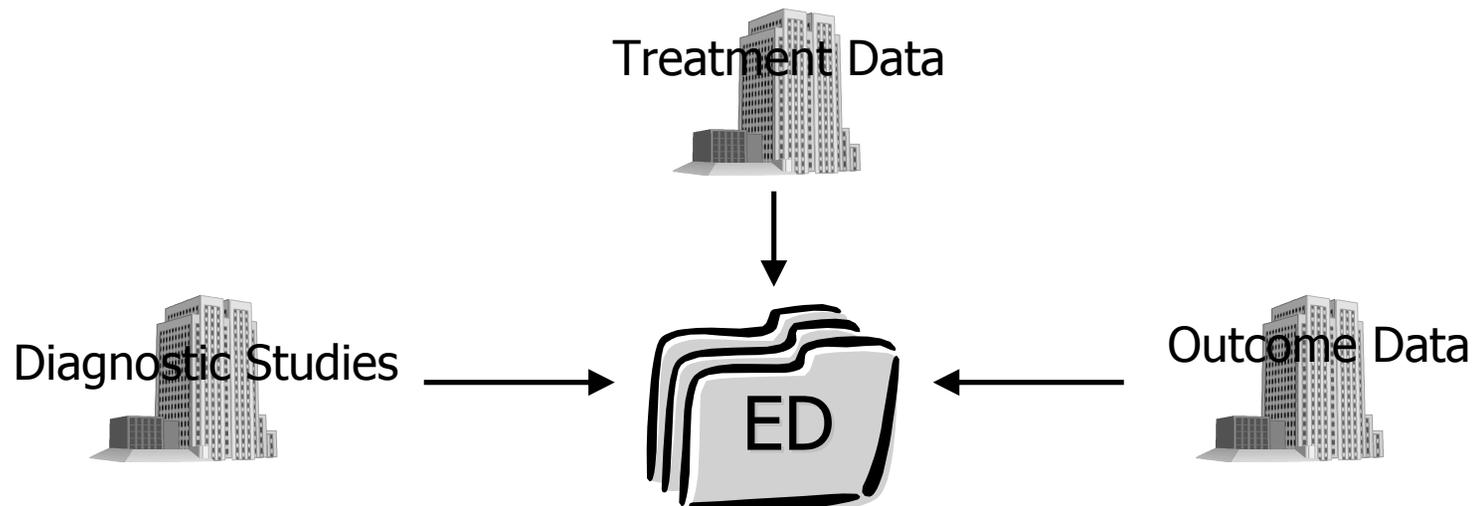




Illusion Vase by Chris Nelson ©1995 Pixel Nations Productions

# Patient Linkage

- When data is returned from multiple sites, it will need to be combined and linked.
- For example, if “John Doe” is seen for various aspects of his colon cancer at different institutions, the data must be aggregated:

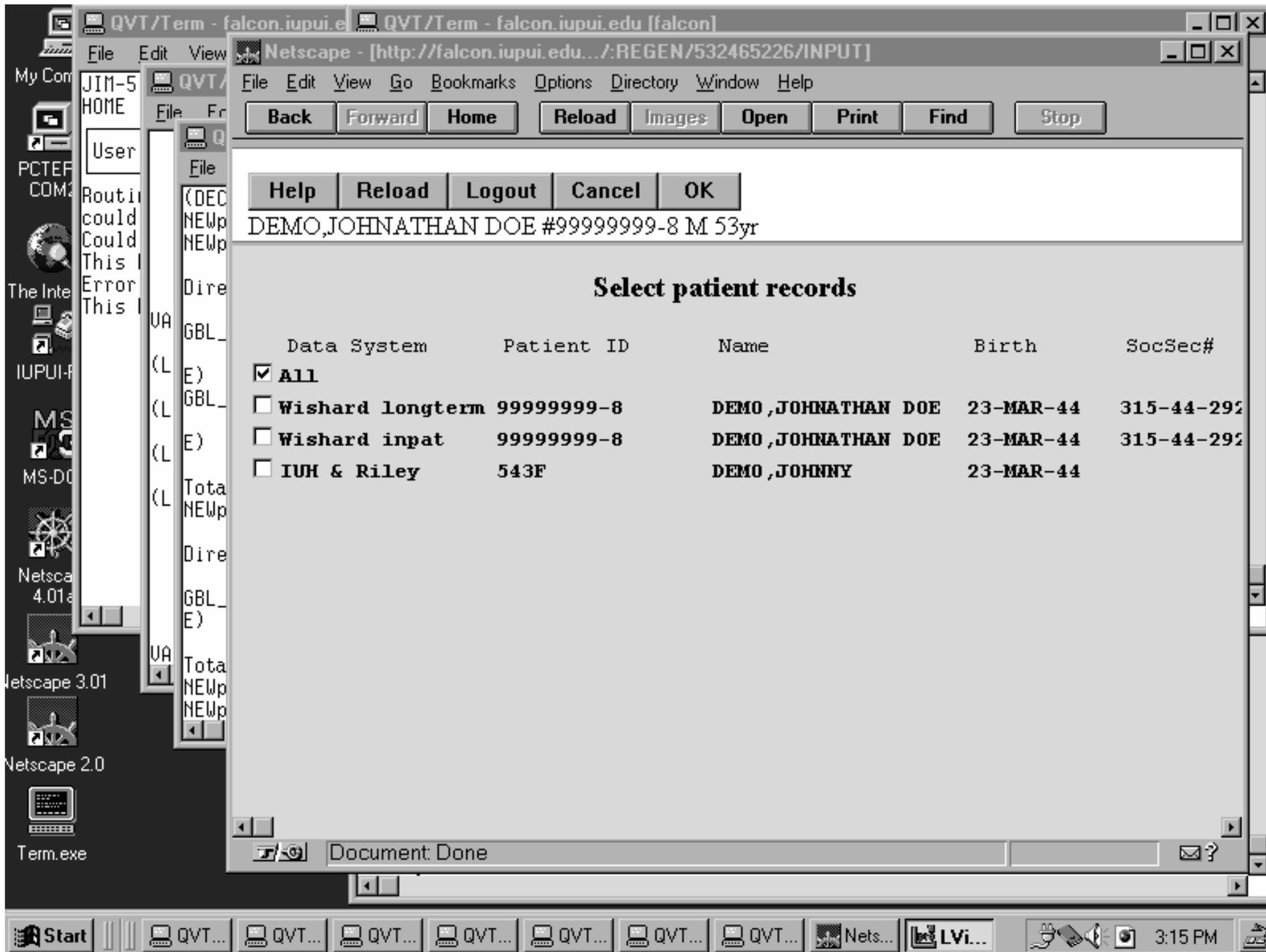


# Patient linkage approach

- Create global registry
  - One record per assigned patient number per institution
- Create logical links between each of these records
- Match on social security number, patient name, birth date and gender
- Use Sideli/Friedman algorithm<sup>1</sup> for near name matches

# Global Patient Registry

<u>Assigning Authority</u>	<u>Global #</u>	<u>Local Pat #</u>	<u>Patient Name</u>	<u>Birthdate</u>	<u>Sex</u>
Hospital A	99-1	231456	Sinkwell, Ralph J	12-2-59	M
Hospital B	123-0	A47239	Sinkwell, RJ	2-12-59	M
Hospital A	99-1	1032115	Sinkwell, Ralph	12-2-59	
Hospital C	101-0	A3276	Fredrick, Alice	4-14-78	F
Hospital A	101-0	2314590	Fredrick, Alyce	4-14-78	F



# INPC - Confidentiality

- While numerous measures are in place to protect confidentiality of patient's data, the provider has to know who the patient is.
  - Secure physical network
  - Encryption
  - Authentication
  - Agreements
  - Device controls



# INPC Data Access

DEMO,JOHNATHAN DOE #99999999-8 Phone:925-1443 Age:54yr Race:B Sex:M

## EMERGENCY CARE ABSTRACT

**ER CHIEF COMPLAINT**

DEMO, JONATHAN DOE #99999999-8 (M) Age: 57 years [REGEN\_DEVELOP]
OVERHAGE

Select a patient
Browse Patient Record
Other

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**RESULTS**

All Results

Lab Results

Choose Results

Flowsheet

Clinical Synopsis

**REPORTS**

ALL REPORTS

Admission/Discharge

Cardiology

Operative

Pathology

Radiology

Visit/Procedure Notes

Face Sheet

Orders

**ENCOUNTERS**

Brief

Detailed

**PRESCRIPTIONS**

Inpatient

Outpatient

Advance Directive

Surgery Log

### Chronologic Results - Page: 3

Date	Description	Results	Status/Priority	ORD#/Normals	Images
09-May-11		E.R. Chief Complaint			
18-May-00 09:18		<b>VISIT INFO</b>	Final	ENT_WWW_5423	
	Reason for visit	asthma {a} ¶			
	Tickler message	' and ' {a} ¶			
	Admission and Discharge summaries*10-Sep-98				
	Visit level	office visit {a} ¶			
		{a} From Online Data Entry			
23-Mar-00 08:00		<b>E.R. Chief Complaint</b>	Final		
		Complains of chest pain {a} ¶			
		{a} From MEDICINE			
14-Mar-00 10:27		<b>VISIT INFO</b>	Final	ENT_WWW_5421	
	<b>PROGRESS NOTE-HISTORY</b>	THIS IS A LOT OF PROGRESS. {a} ¶			
	Visit clinic	THIS IS A LOT OF PROGRESS. {a} ¶			
		THIS IS A LOT OF PROGRESS. {a} ¶			
	Visit level	THIS IS A LOT OF PROGRESS. {a} ¶			
		{a} From Online Data Entry			
21-Dec-99 09:22		<b>VISIT INFO</b>	Final	ENT_WWW_5417	
	Visit clinic	MED CL {a} ¶			
		{a} From Online Data Entry			
15-Dec-99 15:38		<b>DIFFERENTIAL</b>	Final	ENT_WWW_5411	
15-Dec-99 15:36		<b>DIFFERENTIAL</b>	Final	ENT_WWW_5410	
20-Jul-99 11:18		<b>DIFFERENTIAL</b>	Final	ENT_WWW_5403	
	WBC Corrected # Bld	1 {a} ¶ THOU/CU MM			
	Promyel %	1 {a} ¶ %			
	Basos %	5 {a} ¶ %			
	Eosins %	23 {a} ¶ %			
	Monos %	10 {a} ¶ %			

**URINE STUDIES (continued)**

24-APR-97 COMMON URINE STUDIES 27-JAN-91

UNITS CREAT:URN 47 MG/DL 14-AUG-90

9 UNITS 16-JAN-91 CREAT-TM:URN 0.56\*L G/TV 16-DEC-89

0\*L UNITS CREAT CLR RATE NO SPECIM(a) ML/MIN '

IU/L 24-APR-97 24-APR-97

CREAT SER 0.6 MG/DL 16-DEC-89

CREATININE:URN 19.0\*L MG/DL

24-APR-97 (a) NO SPECIMEN RECEIVED IN LAB

5\*L THOU/CU MM

88\*L MILL/CU MM

**THYROID STUDIES**

5\*L (a) G/DL THY 05-JAN-90

3\*L ¶ T3 UPTAKE RATIO 0.78\*L

9\*H fl

**PULMONARY**

2\*H PG BLD GAS PANEL 1 24-APR-97

6 G/DL TEMPERATURE 98.7 (a) DEG F

5\*H ¶ HGB 12.5\*L (b) G/DL

24-APR-97 (a) From MEDICINE

(b) From IUMC Lab

**CARDIOVASCULAR**

24-APR-97 CARDIAC ECHO 22-NOV-89

ES 0\*L THOU/CU MM cardiomegaly mod

7\*H ¶ 06-FEB-91 LV motion nml

13 PG/ML 16-OCT-89

0 NG/ML 11-MAY-87 EKG 30-MAR-98

4\*H ¶ 02-NOV-90 normal sinus rhythm, normal ECG

24-APR-97 **RADIOLOGY/NUCLEAR MED**

0 SEC 30-JUL-87 CHEST PA & LATERAL 11-FEB-91

8\*H SEC 24-APR-97 HOSP

4\*H right

PLICAT(a) SEC fluid NOS

Select a patient Browse Patient Record Other

Select a patient » My List

Recent Patients  
Patient Search  
PATIENT LIST  
My List  
Add patient  
Remove patient(s)

### My Patient List

Bed	Patient Name	MRN	DOB	Admit Date	Notes	Remove Patient	
LDRP13	<b>PRACTICE,PATIENT</b> Low sodium diet	<b>99999-5</b>	30-Mar-21	02-JAN-2001	<b>NEW-RESULTS</b> ADDED-BY	REMOVE	
C504-W	<b>TEST,CLEM</b>	<b>0149666-0</b>	29-Mar-23		New Results Available • BLD CELL PROFILE • ROUTINE URINALYSIS • CARDIAC TESTS	REMOVE	
6080-D	<b>DEMO,JONATHON DOE</b>	<b>99999999-8</b>	23-Mar-44			ADDED-BY	REMOVE
D331-W	<b>DUMMY,DUM</b>	<b>X071539-3</b>	01-Jan-19			ADDED-BY	REMOVE
NW101-D	<b>TEST,PATIENT3</b> Suicide Watch	<b>999-3</b>	24-Jan-52		ADDED-BY <i>Click on the 'NEW-RESULTS' label to reset these results</i>	REMOVE	
NW101-W	<b>MOUSE,MICKEY</b> Beware of tail. Be aware of the press interest in this patient	<b>X024586-2</b>	05-Jul-30	02-JAN-2001	<b>NEW-RESULTS</b>	REMOVE	
BC2	<b>TEST,REGENSTRIEF</b> DNR order exists	<b>X194135-2</b>	11-Oct-1899	02-JAN-2001		REMOVE	

Hide

Logout Help

[c] [x] [a]

Select a patient | Browse Patient Record | Other

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  - Lab Results
  - Choose Results
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  - Operative
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  - Radiology
  - Visit/Procedure Notes
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- PRESCRIPTIONS
  - Inpatient
  - Outpatient
  - Advance Directive
  - Surgery Log

## Chronologic Results - Page: 1

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	Reason for visit	asthma {a} ?			
	Tickler message	' and ' {a} ?			
	Admission and Discharge summaries*10-Sep-98				
	WESTSIDE CL {a} ?				
	Visit level	office visit {a} ?			
		{a} From Online Data Entry			
23-Mar-00 08:00		<b>E.R. Chief Complaint</b>	Final		
		Complains of chest pain {a} ?			
		{a} From MEDICINE			
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	<b>PROGRESS NOTE-HISTORY</b>	THIS IS A LOT OF PROGRESS. {a} ?			
	Visit clinic	THIS IS A LOT OF PROGRESS. {a} ?			
		THIS IS A LOT OF PROGRESS. {a} ?			
	Visit level	THIS IS A LOT OF PROGRESS. {a} ?			
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	WBC Corrected # Bld	1 {a} ? THOU/CU MM			
	Promyel %	1 {a} ? %			
	Basos %	5 {a} ? %			
	Eosins %	23 {a} ? %			

Select a patient | Browse Patient Record | Other

Hide Menu

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Logout | Help | Timing

- RESULTS**
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### Flowsheet - Page: 5

IRON STUDIES/EPO STUDIES:	02-Nov-90 19:00	17-Feb-90 15:43	16-Oct-89 11:32	12-Jul-89 09:32	26-Jun-89 09:48	25-Jun-89 12:34	05-Dec-88 06:00	11-May-87 06:00	30-Nov-86 04:32
<input type="checkbox"/> Iron Ser QN	77	90		205*H			208*H	58	72
<input type="checkbox"/> TIBC Ser QN	201*L	135*L		273*L			225*L	66*L	66*L
<input type="checkbox"/> Iron %Sat	38*H	67*H		75*H			92*H	88*H	>100*H
<input type="checkbox"/> Ferritin EIA Ser QN			801*H	801*H	801*H	801*H		801*H	556*H

FOLATE/B12 STUDIES	16-Oct-89 08:48	11-May-87 06:00	30-Nov-86 04:32	Units
<input type="checkbox"/> Folate Ser QN RIA		6.0	4.2	NG/ML
<input type="checkbox"/> Vit B12 Ser QN RIA	1013	>2000	1648	PG/ML

HEMOLYSIS STUDIES	06-Feb-91 07:16	13-Jul-89 14:59	Units
<input type="checkbox"/> Haptoglob Ser	137.2	83.0	MG%_HGB_BIND_CAP
<input type="checkbox"/> HGB-Free Plas QN		<3	MG/DL

End of Page: 5

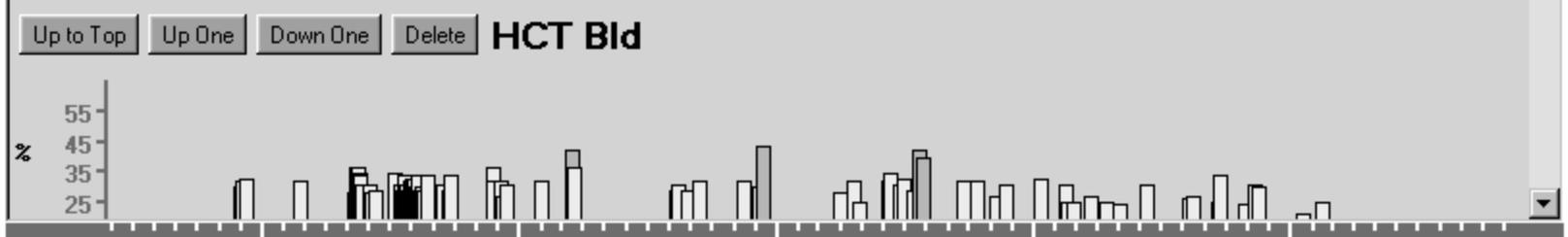
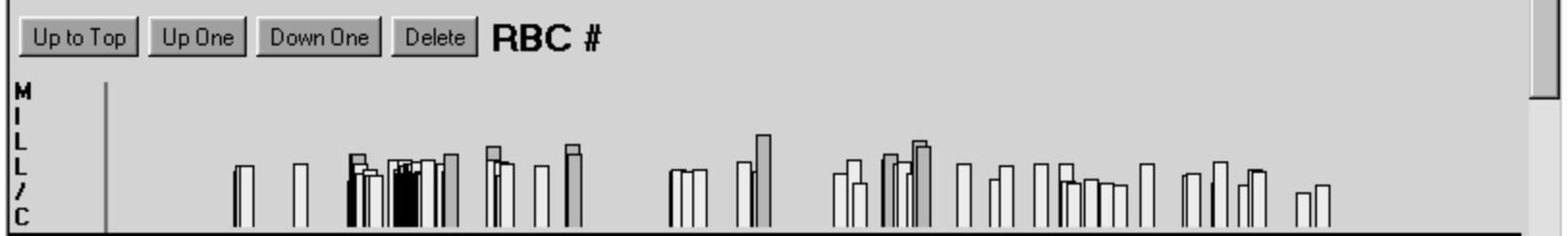
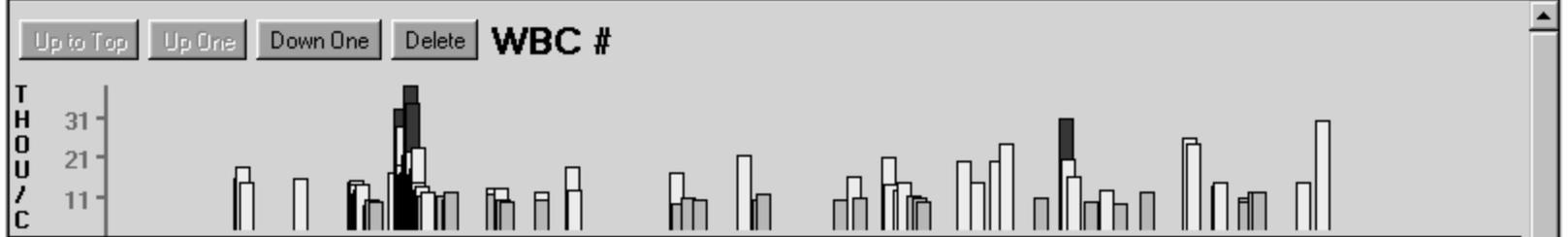
DEMO,JONATHAN DOE #99999999-8 @REGEN\_DEVELOP M Age: 57 years BARNES,MIKE

Select a patient Browse Patient Record Other Browse Patient Record»Flowsheet

- Chronologic Results
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- mrf\_inq\_tst\_one
- Echocardiogram

DEMO,JONATHAN DOE #99999999-8 @REGEN\_DEVELOP M 57yr

Zoom Out Fully Zoom Out Zoom In Left Right Help



TIME ► [OLDER] May 25, 1986 Years and Months Nov 17, 1991 [NEWER]

Patient Name **WISHARD M 26yr**

Help Logout Cancel **OK**



mrf\_01\_display  
OVERHAGE,JOSEPH M

**@WISHARD M 26yr**

diology	11-May-00 24:00
Sella turcica mri	IMPRESSION, There is a nonenhancing lesion in the central pituitary gland as described above. This probably represents an adenoma. Clinical correlation as to whether this is functional or not is recommended. The signal intensity is slightly atypical for a cyst, but possibility of an atypical pars intermedias cyst cannot be entirely excluded. Comparison with prior films is recommended. ? # 3

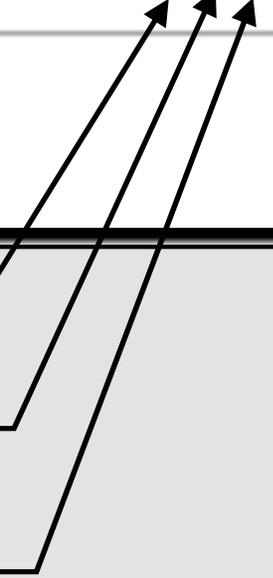
*YOU HAVE SEEN THE MOST RECENT VALUES. OLDER DATA FOLLOW ---*

*END OF FLOW* chined above. This probably represents an adenoma. The signal intensity is slightly atypical for a cyst, but possibility of an atypical pars intermedias cyst cannot be entirely excluded. Comparison with prior films is recommended. ? # 3

**Details**

**Report**

**Image**



EMO, JONATHAN DOE #99999999-8 @REGEN\_DEVELOP M Age: 56 years

DEMO, USE

Select a patient

Browse Patient Record

Other

Browse Patient Record » Flowsheet

Chronologic Results  
Flowsheet

Flowsheet (Advanced)

Clinical Synopsis

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ALL REPORTS

Discharge Summaries

Miscellaneous

Operative

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Radiology

Ref Sheet

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COUNTERS

Brief

Detailed

Master

DESCRIPTIONS

Inpatient

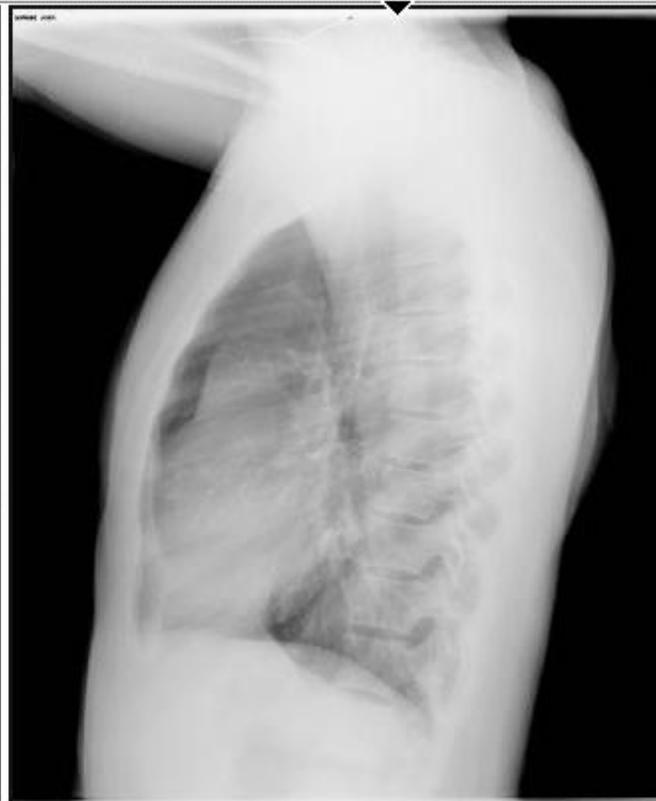
Outpatient

Advance Directive

Surgery Log

CHEST PA & LAT XR  
CHEST, 2 VIEW

Click on a thumbnail image to see full image.  
These are compressed images for clinical review.



i001

i001

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Logout

Help

[c] [x] [a]

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Newpat

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### Flowsheet

EKG MEASURES	30-Mar-98 15:18	29-Mar-98 06:34	28-Mar-98 11:06	27-Mar-98 10:40	26-Mar-98 17:47	25-Mar-98 06:49	23-Mar-98 15:18	08-Mar-98 06:34
<input type="checkbox"/> EKG	normal sinus rhythm, normal ECG	normal sinus rhythm, improper standard, normal ECG	sinus tachycardia, possible left atrial enlargement, QUESTION PRECORDIAL LEADS, poor quality tracing, borderline ECG	normal sinus rhythm, sinus arrhythmia, moderate left axis deviation, NONSPECIFIC ST-T, abnormal ECG	normal sinus rhythm, low QRS voltage in chest leads, CONSISTENT WITH PULMONARY DISEASE, abnormal ECG	normal sinus rhythm, low QRS voltage in chest leads, atypical ECG	normal sinus rhythm, normal ECG	normal sinus rhythm, improper standard, normal ECG
<input type="checkbox"/> P-Axis	48	52	37	5	43	38	48	52
<input type="checkbox"/> QRS-Axis	29**H	44**H	69**H	-24**H	30**H	26**H	29**H	44**H
<input type="checkbox"/> T-Wave Axis	52	11	2	104	16	6	52	11
<input type="checkbox"/> Pulse EKG	75	95	126	71	93	96	75	95
<input type="checkbox"/> PR Interval	180	184	160	128	164	172	180	184
<input type="checkbox"/> RR Interval	791	629	474	845	640	623	791	629
<input type="checkbox"/> QRS Interval	88	88	92	112	84	88	88	88
<input type="checkbox"/> QT Interval	364	348	336	448	340	344	364	348
<input type="checkbox"/> QT Corrected	393	401	411	470	391	397	393	401

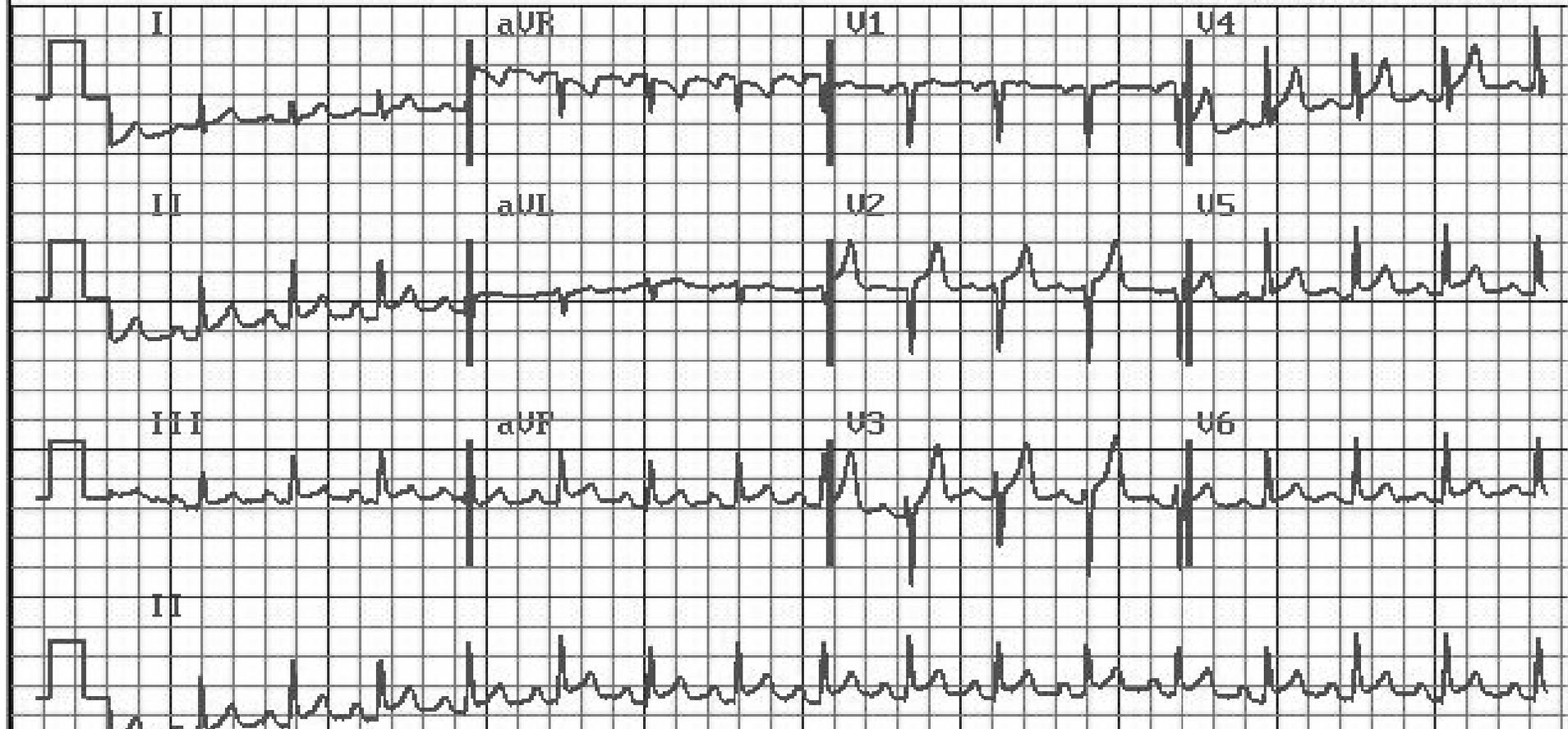
Auto



Name: TEST1                    PATIENT    1-94EK   EKG STATION   1974  
Loc : A227                    Age: 43    normal ECG  
MR #: 9-1                    Tec: 14  
10:46   09/01/94

Intervals				Axes		
HR	PR	QRS	QT/QTc	P	QRS	T
96	172	76	312/366	69	69	55

Press RETURN to exit





**Study Information**

Name: Load Time: 53 s

Patient ID:

DOB: 06/24/1929

Study Type: Routine

Study Date: 04/25/2000 10:30

Reason For Echo: SARCOIDOSIS, EDEMA

Weight(lb): 0

Height(in): 0

Exam Location: Wishard Hosp. - Echo Lab

Referring Physician: OVERHAGE

Video Tape: HD5#275 20.1

Lab Comments:

**View 4 - Study 1**

1481598-3 25 Apr 00 115 1.4 MI 1.0

WISHARD MEMORIAL HOSP. P4-2 A.Card/WALT 10:14:50 am 17 Hz 20.1cm

Map 2  
150dB/C3  
Persist Low  
Fr Rate High  
2D OptHPen  
Col 73% Map 7  
WF Med  
PRF 3500 Hz  
Flon Opt FR  
BW 0 Pg 0  
Col 0 Pg 0

0:21:58

101 BPM

# 8 BRUNNER, JAMES 04/25/2000 10:30

**Study 1 Thumbnails**



**Study Information**

Name: Load Time: 53 s

Patient ID:

DOB: 06/24/1929

Study Type: Routine

Study Date: 04/25/2000 10:30

Reason For Echo: SARCOIDOSIS, EDEMA

Weight(lb): 0

Height(in): 0

Exam Location: Wishard Hosp. - Echo Lab

Referring Physician: OVERHAGE

Video Tape: HD5#275 20.1

Lab Comments:

7554073  
 Ex: 200102220820  
 DA  
 Se 1/2  
 Im: 2/139

WISHARD MEMORIAL HOSPITAL  
 RIVERS, MICHAEL  
 M 752323-6  
 Acc:  
 2001 Feb 22

Mag: 1.0x

W:255 L:128

**Study 1 Thumbnails**

**TEST,DADDY #1349459-6 (M) Age: 9 years [WISHARD]** TUCKER,MARK

Select a patient **Browse Patient Record** Other Browse Patient Record»Flowsheet

Hide Menu Cancel Praxis Logout Help Timing

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**TEST, HUMPTY DUMPTY**  
 04-Jan-93 317-536-9854  
 3645 E CHURCH HILL DR CARMEL  
 HCP: none () Dr  
 1 N BRIEF, 2 N LIMITED, 3 N INTRMD, 4 N EXT, 5 N COMI

--- Observations List ---

HEIGHT PEDS	20	IN	
WEIGHT PEDS	41	lb	
TEMP	98.6	DE	
TEMP RECTAL		DE	
TEMP AXILLARY		DE	
RR		/M	

Age: \_\_\_\_\_  
 Informant: \_\_\_\_\_  
 Dietary Habits: \_\_\_\_\_  
 Concerns / Issues: \_\_\_\_\_  
 School progress: \_\_\_\_\_  
 Reviewed: \_\_\_\_\_ PM  
**PHYSICAL EXAM**  
 Normal: Ger \_\_\_\_\_  
 Head \_\_\_\_\_  
 Skin \_\_\_\_\_  
 Eyes/N \_\_\_\_\_



BARNES, MICHAEL R  
TEST BARNES

General

- New Documents
- Document Archive
- Document Search
- Change Password
- Help
- Logout



### RADIOLOGY CONSULTATION REPORT

Exam: Spine Lumbar 3V XR

Exam Date:

Patient Name:

Sex:

Exam Time:

MRN:

Patient Location: OP Out Patient

Accession:

Birth Date:

Patient Class: O

Report To:

Attending Provider:

Ordering Provider: Barnes, Michael R

DICTION DATE:

AP AND LATERAL RADIOGRAPHS OF THE LUMBAR SPINE, :

COMPARISON: No comparison.

INDICATION: Back pain.

**FINDINGS:** Alignment of the lumbar spine is within normal limits. No spondylolysis or spondylolisthesis is identified. There is mild narrowing of the L4/5 disc space. The remaining disc space heights are within normal limits. There is multilevel anterior osteophytes. The sacrum and sacroiliac joints are intact. The remaining visualized bones of the pelvis are unremarkable. There is an ovoid 2 cm calcification seen just to the right

<u>DELIVERY PREPARATIONS</u>	<u>FETAL WELLBEING (continued)</u>	<u>HEMATOLOGY</u>
DELIVERY/B-C PLANS 13-NOV-96 CONTRACEPTION PLANS depoprovera	OB US ABS GROUP 13-NOV-96 EDC BY GA SEL A 18MAR97 GA SEL BASIS A based on LMP	OB TRIAGE HEMATOLOGY 21-AUG-96 HGB 13.0 G/DL HCT 39 %
<u>BLOOD TYPE</u>	<u>PRENATAL SCREENING TESTS</u>	<u>URINALYSIS</u>
PRENATAL ABO RH 21-AUG-96 Rh positive ABO GROUP group O ANTIBODY SCREEN neg	OB SCREENING TESTS 21-AUG-96 RUBELLA INTERP positive HEP B SURF AG neg SYPHILIS SCRNR-RPR nonreact	OB ABS URINALYSIS 13-NOV-96 PROTEIN-UA trace GLUCOSE-UA neg
<u>ALLERGIES</u>	<u>CERVICAL PAP TESTS</u>	<u>OB MEDICAL HISTORY</u>
ALLERGY HX 21-AUG-96 no known allergies	CERVICAL PAP TESTS 06-SEP-96 PAP SMEAR GYN Procedure(s): PAP SMEAR GYN Source(s): cervix Diagnoses: within normal limits Specimen adequacy: satisfactory for interpretation	OB MED ABSTRACT DATA 21-AUG-96 MENSTRUAL CYCLE HX normal BIRTH CTL METHOD none GYN HX abnormal pap smear CARDIOVASCULAR HX none RESPIRATORY HX none ENDOCRINE METABOLIC HX none RENAL HX none NEUROLOGIC HX none INFECTION HX none GENERAL HX none SURGICAL HX none
<u>FETAL WELLBEING</u>	<u>GC CHLAMYDIA TESTS</u>	<u>NURSING INSTRUCTIONS</u>
TRIPLE MARKER SCN 02-OCT-96 MAT WEIGHT-MSAPP 151 LBS INSULIN DIABETIC no GESTATIONAL AGE 15.7 week LMP - MSAPP 11JUN96 MATERNAL SER AFP 130.5 NG/ML AFP M.O.M. 3.78 TRIS 21 RISK-AVG FOR AGE 92 OSB RISK - PATIENT 857 RISK FOR OSB/GEN POPULATION 2000	GC CHLAMYDIA SCN 06-SEP-96 Source: cervix GC-DNA PROBE, negative CHLAMYDIA-DNA PROBE, neg	NURSING CARE INSTRUCTIONS 13-NOV-96 ACTIVITIES/DISCOMFORTS INSTRUCT verbal 06-SEP-96 MEDS/EXPOSURE INSTRUCT verbal WARNING SIGNS INSTRUCT verbal 13-NOV-96 INFANT FEEDING PLANS done BREAST SELF EXAM/CARE INSTRUCT verbal 06-SEP-96 PRENATAL LITERATURE GIVEN done 13-NOV-96
OB US ABS GROUP 13-NOV-96 PRESENT US A cephalic AF VOL A normal PLACENTA A grade 1 placenta, anterior WEIGHT % FETUS A 25-50% EFW BY US A 420 GM GA BY LMP A 22.1 week GA BY US A 21 week GA SELECT A 22.1 week EDC BY US FETUS A 26MAR97	OB COMMON CULTURES 21-AUG-96 URINE CULTURE Source: urine CCMS no growth-final	
	<u>GLUCOSE SCREEN</u>	
	OB GLUCOSE TESTS (no data found)	

This is a partial medical history containing confidential patient information. Unauthorized use is subject to disciplinary action. Record modified 08-DEC-96

Wishard Memorial Hospital

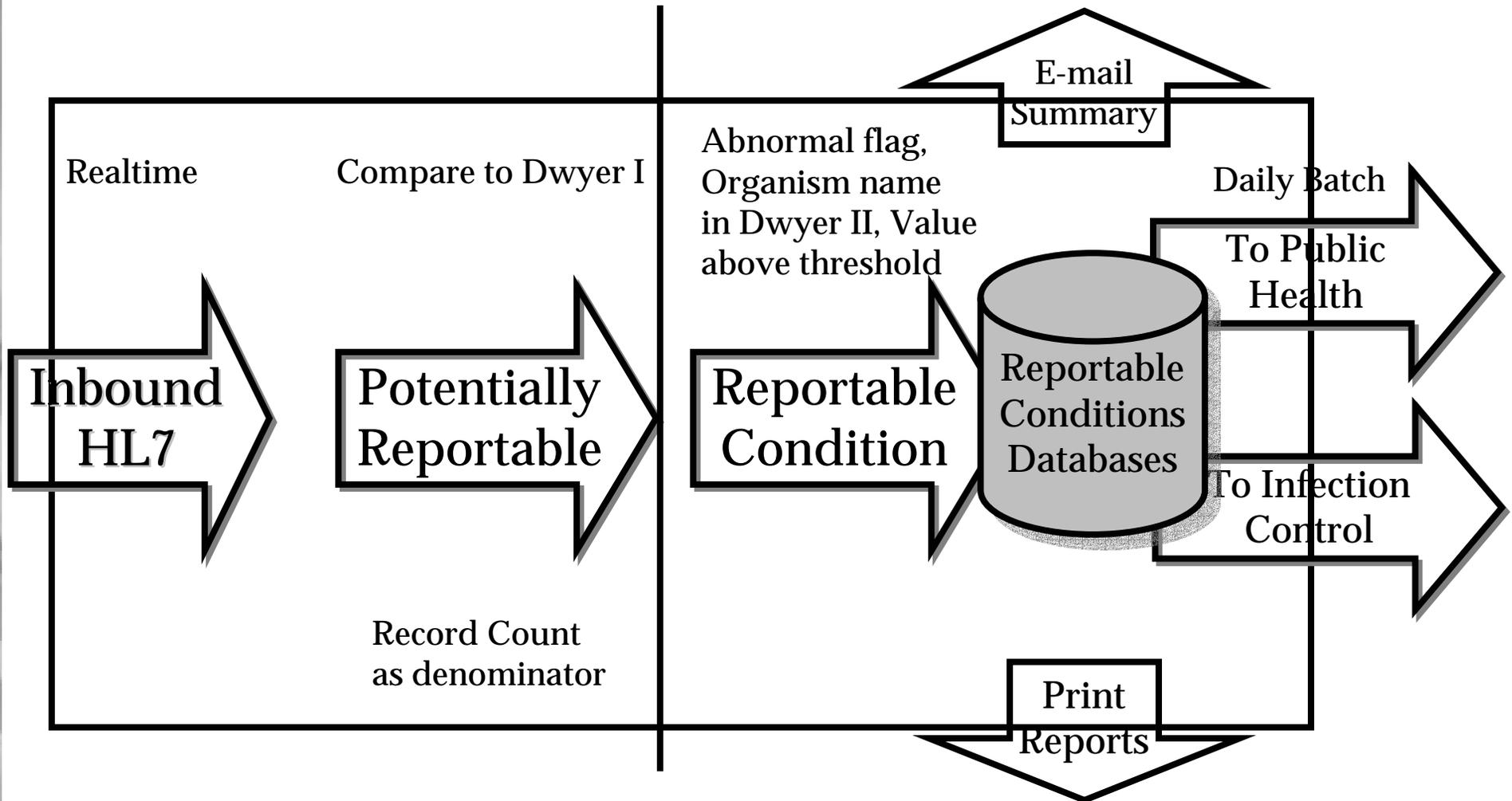
SAMPLE,PATIENT #0999999-6

Printed 10-Dec-96

# Data reuse

- Clinical care
  - Emergency room
  - Primary care
  - Inpatient
- Public health (state and local HD)
  - Immunization registry
  - Reportable conditions
  - Surveillance
- Health services research
- Clinical research
- Accreditation reports

# Reportable condition processor





# Integrating Non-traditional Data

## Indianapolis Electrolytes, Rotavirus, and RSV

